INVESTIGATION OF WATER HARDNESS, HEAVY METALS AND TOTAL COLIFORM BACTERIAL IN WATER COOLERS AT VARIOUS LOCATION IN UiTM SHAH ALAM

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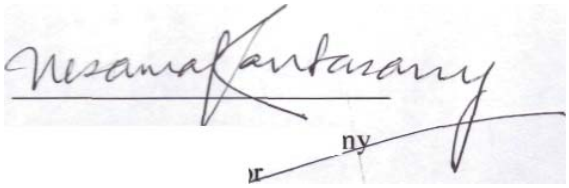
This Final Year Project Report entitled "**Investigation of Water Hardness, Heavy Metals and Total Coliform Bacterial in Water Coolers at Various Location in UiTM Shah Alam**"was submitted by Nur Raihan Binti Abd. Rahman, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Science, and was approved by



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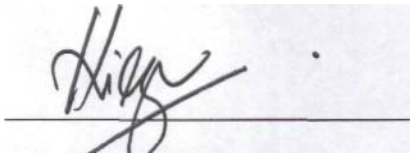

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ABSTRACT

INVESTIGATION OF WATER HARDNESS, HEAVY METALS AND TOTAL COLIFORM BACTERIAL IN WATER COOLERS AT VARIOUS LOCATION IN UiTM SHAH ALAM

The aim of this study was to investigate the presence of heavy metals and bacteria (Total Coliform) and also to determine the water hardness in water from water cooler devices at different location in UiTM Shah Alam. The water sample was analyzed in the lab to investigate the water hardness, concentration of heavy metals and the presence of bacteria that contains in the water. ICP-OES was used to determine the concentration of heavy metals, water hardness was obtained using IC and membrane filtration method was used to determine the presence of total coliform in the water sample. Results showed the water was considered soft based on the concentration of $CaCO_3$ is between 0-60 mg/l. Meanwhile, the presence of heavy metals was not detected and the total coliform is too small. So, it can be concluded that the water was safe to use for drinking.